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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,842	09/25/2003	Michael D. Brookshire	121236.00003	9648
26707 7590 03/31/2009 QUARLES & BRADY LLP RENAISSANCE ONE TWO NORTH CENTRAL AVENUE PHOENIX, AZ 85004-2391				
EXAMINER				
REESE, DAVID C				
ART UNIT		PAPER NUMBER		
3677				
MAIL DATE		DELIVERY MODE		
03/31/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/671,842

Applicant(s)

BROOKSHIRE, MICHAEL D.

Examiner

David C. Reese

Art Unit

3677

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7,8,10,13-16,18,19,21,23-25 and 40-56 is/are pending in the application.
- 4a) Of the above claim(s) 46,50,55 and 56 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7,8,10,13-16,18,19,21,23-25,40-45,47-49 and 51-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-846)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

After further review the appeal brief filed on 12/10/2008, PROSECUTION IS HEREBY REOPENED.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

**/Victor Batson/
Supervisory Patent Examiner, Art Unit 3677**

Status of Claims

- Claims 2, 6, 9, 11-12, 17, 20, 22, 26, and 29-39 are canceled.
- Claims 46, 50, and 55-56 are withdrawn (see below).
- Claims 1, 3-5, 7-8, 10, 13-16, 18-19, 21, 23-25, and 40-56 are pending.

Election/Restrictions

[1] After further examination and in view of applicant's remarks concerning the drawing objections from 9/27/2007 (that the feature of the apex of the dome-shaped crown as having less surface area than each facet from the sets of facets is shown in fig. 8), claims 46, 50, and 55-56 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Examiner would like to

reiterate that the elected species was directed toward figs. 2-5; while claims 46, 50, and 55-56 contain subject matter directed toward fig. 8, a non-elected species.

Double Patenting

[2] The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

[3] Claims 1, 3-5, 7-8, 10, 13-16, 18-19, 21, 23-25, and 40-56 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 25-44 of U.S. Patent application 10/613,281. Although the conflicting claims are not identical, they are not patentably distinct from each other because they both cover subject matter denoting multiple sets of facets extending continuously from the girdle region to the crown of a gemstone.

Claim Rejections - 35 USC § 102

[4] The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

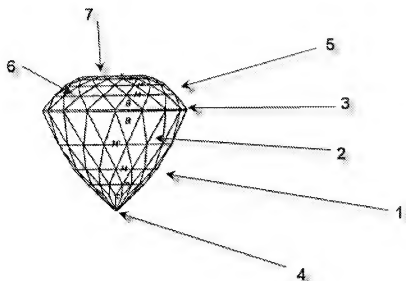
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

[5] Claims 40, 44, 47-48, and 54 are rejected under 35 U.S.C. 102(b) as clearly anticipated by Diagrams for Faceting reference, because the invention was patented or described in a printed publication in this or a foreign country, or in public use or on sale in this country more than one (1) year prior to the application for patent in the United States.

As for Claim 40, Diagrams for Faceting reference discloses of a cut gemstone (see figure 9), comprising:

a pavilion (1) having a plurality of facets (2) disposed from a girdle (3) to a culet (4); and
a dome-shaped crown (5) disposed above the girdle (3), wherein the girdle (3) extends no further than a widest circumference (bottom of 5) of the dome-shaped crown (5) and the pavilion (1) extends no further than a widest circumference of the girdle (3), the dome-shaped crown (5) formed from a plurality of sets of facets (6) cut with monotonically decreasing angles to form a curved contour in accordance with a dome shape from the girdle (3) to an apex (7) of the dome-shaped crown (5), each facet (6) within the sets of facets (6) being polygonal in shape with opposing corners of the polygon nested between adjacent facets (6).



Re: Claim 44, wherein the dome-shaped crown (5) is formed from at least five sets of facets (6) (see also figure ID on page 9 of "Diagrams") with monotonically decreasing angles to form the curved contour in accordance with the dome shape (5).

As for Claim 47, Diagrams for Faceting reference discloses of a cut gemstone (see figure below), comprising:

a pavilion (1) having a plurality of facets (2) disposed from a girdle (3) to a culet (4); and
a dome-shaped crown (5) disposed above the girdle (3), wherein the girdle (3) extends no further than a widest circumference (bottom of 5) of the dome-shaped crown (5) and the pavilion (1) extends no further than a widest circumference of the girdle (3), the dome-shaped crown (5) formed from a plurality of sets of facets (6) cut with monotonically decreasing angles to form a

curved contour in accordance with a dome shape from the girdle (3) to an apex (7) of the dome-shaped crown (5).

Re: Claim 48, wherein each facet (6) within the sets of facets (6) is polygonal in shape with opposing corners of the polygon nested between adjacent facets (6).

Re: Claim 54, wherein the dome-shaped crown (5) if formed from at least five sets of facets (6) (see also figure ID on page 9 of "Diagrams") with monotonically decreasing angles to form the curved contour in accordance with the dome shape (5).

Claim Rejections - 35 USC § 103

[6] The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

[7] Claims 41, 45, and 49, 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diagrams for Faceting reference.

Diagrams for Faceting reference (herein, "Diagrams") discloses of the above claims.

The difference between the claim and "Diagrams" is that "Diagrams" does not expressly disclose that each facet (6) within the set of facets (6) being hexagonal in shape (claims 45, 49); and that the plurality of facets of the pavilion are each cut to an angle of about 40.75 degrees (Claims 41, 51). It would have been an obvious matter of design choice to modify "Diagrams" (the aspect of the shape of the facets within the sets of facets, and that the plurality of facets of the pavilion are each cut to an angle of about 40.75 degrees) since applicant has not disclosed

that such a particular orientation creates any unexpected result. It appears that the invention would perform equally well as the invention disclosed by “Diagrams”. It is extremely old, well known, readily apparent and profoundly obvious to change the size, shape, number, orientation, angles, percentages, and create ranges for facets and the gemstone in its entirety as to merely alter the aesthetics of said gemstone for the corresponding and resulting properties including brilliance, radiance, etc. for the utility of mere user preference. It is also extremely well known that altering said features will produce different properties radiating from said gemstone, depending on the changes and alterations made. Therein, once again, lies the pertinence behind such, as no unexpected result, viewed by one skilled in the art; will occur, with any of the above possible changes or alterations to any given gemstone, as such alterations are known to alter/modify the aesthetics of a gemstone. The designs of the facets for a gemstone are considered to be an obvious design choice since the only thing that changes is the appearance of the gemstone.

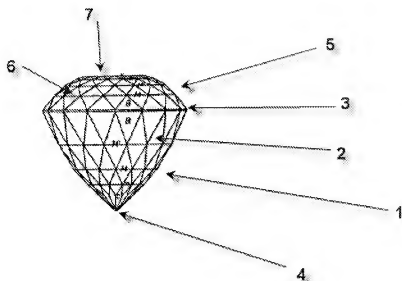
[8] Claims 1, 3-5, 13-16 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diagrams for Faceting reference.

Although the invention is not identically disclosed or described as set forth 35 U.S.C. 102, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a designer having ordinary skill in the art to which said subject matter pertains, the invention is not patentable.

As for Claim 1, Diagrams for Faceting reference teaches of a diamond (see figure below), comprising:

a pavilion (1) having a plurality of facets (6) disposed from a girdle (3) to a culet (4), each of the plurality of facets (6) having a continuous flat surface extending from the girdle (3) to the culet (4), wherein an edge of a first adjoining facet contacts an edge of a second adjoining facet along a common radial boundary; and

a dome-shaped crown (5) disposed above the girdle (3), wherein the girdle (3) extends no further than a widest circumference (bottom of 5) of the dome-shaped crown (5) and the pavilion (1) extends no further than a widest circumference of the girdle (3), the dome-shaped crown (5) formed from at least five sets of facets (6) with monotonically decreasing angles to form a curved contour in accordance with a dome shape from the girdle (3) to an apex (7) of the dome-shaped crown (5), each facet (6) within the sets of facets (6) nested between adjacent facets (6), each of the sets of facets (6) having monotonically decreasing surface area from the girdle (3) to the apex (7) of the dome-shaped crown (5).



The difference between the claim and “Diagrams” is that “Diagrams” does not expressly disclose that each facet (6) within the set of facets (6) being hexagonal in shape. It would have been an obvious matter of design choice to modify “Diagrams” (the aspect of the shape of the facets within the sets of facets) since applicant has not disclosed that such a particular orientation creates any unexpected result. It appears that the invention would perform equally well as the invention disclosed by “Diagrams”. It is extremely old, well known, readily apparent and profoundly obvious to change the size, shape, number, orientation, angles, percentages, and create ranges for facets and the gemstone in its entirety as to merely alter the aesthetics of said gemstone for the corresponding and resulting properties including brilliance, radiance, etc. for the utility of mere user preference. It is also extremely well known that altering said features will produce different properties radiating from said gemstone, depending on the changes and

alterations made. Therein, once again, lies the pertinence behind such, as no unexpected result, viewed by one skilled in the art; will occur, with any of the above possible changes or alterations to any given gemstone, as such alterations are known to alter/modify the aesthetics of a gemstone. The designs of the facets for a gemstone are considered to be an obvious design choice since the only thing that changes is the appearance of the gemstone.

As for Claims 3-4, “Diagrams” teaches of the above claim.

The difference between the claim and “Diagrams” is that “Diagrams” does not expressly disclose that the plurality of facets of the pavilion are each cut to an angle of about 40.75 degrees (Claim 3) and that said plurality totals at least sixteen in number (Claim 4).

It would have been an obvious matter of design choice to modify “Diagrams” (by altering said angle and number of facets of the pavilion), since applicant has not disclosed that such a particular orientation creates any unexpected result. It appears that the invention would perform equally well as the invention disclosed by “Diagrams”. It is extremely old, well known, readily apparent and profoundly obvious to change the size, shape, number, orientation, angles, percentages, and create ranges for facets and the gemstone in its entirety as to merely alter the aesthetics of said gemstone for the corresponding and resulting properties including brilliance, radiance, etc. for the utility of mere user preference. It is also extremely well known that altering said features will produce different properties radiating from said gemstone, depending on the changes and alterations made. Therein, once again, lies the pertinence behind such, as no unexpected result, viewed by one skilled in the art; will occur, with any of the above possible changes or alterations to any given gemstone.

Re: Claim 5, wherein the pavilion (1) is substantially conical in shape.

As for Claim 13, "Diagrams" teaches of a diamond (see figure above), comprising:

a pavilion (1) extending from a girdle (3) to a culet (4), wherein the girdle (3) extends no further than a widest circumference of the crown (5) and the pavilion (1) extends no further than a widest circumference of the girdle (3); and

a crown (5) in the form of a symmetrical hemisphere formed from at least five sets of facets (6) between the girdle (3) and an apex (7) of the crown (5) having a first set of facets (6) disposed above the girdle (3) and a second set of facets (6) disposed between the first set (6) of facets and an apex (7) of the crown (5), wherein the first set of facets (6) is cut at a first angle with respect to a reference line which is tangential to the apex (7) of the crown (5) and the second set of facets (6) is cut at a second angle with respect to the reference line which is less than the first angle, each facet (6) within the first and second sets of facets (6) being hexagonal in shape with opposing corners of the hexagon nested between adjacent facets (in view of remarks above).

Re: Claim 14, wherein each of the plurality of facets (2) of the pavilion (1) are symmetrically disposed and extend continuous from the girdle (3) to the culet (4).

As for Claims 15-16, and 25 (dependent upon Claim 23, see below), "Diagrams" teaches of the above claims.

The difference between the claim and "Diagrams" is that "Diagrams" does not expressly disclose that the plurality of facets of the pavilion are each cut to an angle of about 40.75 degrees (Claims 15, and 25) and that said plurality totals at least sixteen in number (Claim 16).

It would have been an obvious matter of design choice to modify "Diagrams" (by altering said angle and number of facets of the pavilion), since applicant has not disclosed that such a particular orientation creates any unexpected result. It appears that the invention would perform

equally well as the invention disclosed by “Diagrams”. It is extremely old, well known, readily apparent and profoundly obvious to change the size, shape, number, orientation, angles, percentages, and create ranges for facets and the gemstone in its entirety as to merely alter the aesthetics of said gemstone for the corresponding and resulting properties including brilliance, radiance, etc. for the utility of mere user preference. It is also extremely well known that altering said features will produce different properties radiating from said gemstone, depending on the changes and alterations made. Therein, once again, lies the pertinence behind such, as no unexpected result, viewed by one skilled in the art; will occur, with any of the above possible changes or alterations to any given gemstone.

As for Claim 23, “Diagrams” teaches of a diamond (see figure above), comprising:
a pavilion (1) having a plurality of facets (2) disposed from a girdle (3) to a culet (4); and
a dome-shaped crown (5) disposed above the girdle (3), wherein the girdle (3) extends no further than a widest circumference of the dome-shaped crown (5) and the pavilion (1) extends no further than a widest circumference of the girdle (3), the dome-shaped crown (5) formed from a at least five sets of facets (6) cut with monotonically decreasing angle to form a curved contour in accordance with a dome shape from the girdle (3) to an apex (7) of the dome-shaped crown (5), each facet (6) within the first and second sets of facets (6) being hexagonal in shape with opposing corners of the hexagon nested between adjacent facets (in view of remarks above).

Re: Claim 24, wherein each of the plurality of facets (2) of the pavilion (1) are symmetrically disposed and extend continuous from the girdle (3) to the culet (4).

Re: Claim 55-56, wherein the apex (7) of the crown (5) has less surface area than each facet from the sets of facets (6).

[9] Claims 7-8, 10, 18-19, 21, 27-28, 30, 42-43, and 52-53 are rejected under 35 U.S.C.

103(a) as being unpatentable over Diagrams for Faceting reference.

Although the invention is not identically disclosed or described as set forth 35 U.S.C. 102, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a designer having ordinary skill in the art to which said subject matter pertains, the invention is not patentable.

As for Claims 7-8, 10, 18-19, 21, 27-28, 30, 42-43, and 52-53 Diagrams for Faceting reference teaches of the above claims.

The difference between the claim and Diagrams for Faceting reference is that the claims recite: of the first set of facets being cut about 90 degrees, the second set being cut about 75 degrees (Claims 7, 18, and 27, 42, and 52), the third set about 65 degrees, a forth set of facets being cut about 55 (56) and fifth set cut about 45 (46) degrees (Claims 8, 19, and 28, 43, 53; and 10, 21, and 30, respectively), all of which with respect to a reference line which is tangential to the apex of the dome-shaped crown.

It would have been an obvious matter of design choice to modify “Diagrams” (by altering said angle of each set of facets), since applicant has not disclosed that such a particular orientation creates any unexpected result. It appears that the invention would perform equally well as the invention disclosed by “Diagrams”. It is extremely old, well known, readily apparent and profoundly obvious to change the size, shape, number, orientation, angles, percentages, and create ranges for facets and the gemstone in its entirety as to merely alter the aesthetics of said gemstone for the corresponding and resulting properties including brilliance, radiance, etc. for

the utility of mere user preference. It is also extremely well known that altering said features will produce different properties radiating from said gemstone, depending on the changes and alterations made. Therein, once again, lies the pertinence behind such, as no unexpected result, viewed by one skilled in the art; will occur, with any of the above possible changes or alterations to any given gemstone.

Conclusion

[10] THIS ACTION IS NON-FINAL

[11] Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Reese whose telephone number is (571) 272-7082. The examiner can normally be reached on 7:30 am-6:00 pm Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Katherine Mitchell can be reached at (571) 272-7069. The fax number for the organization where this application or proceeding is assigned is the following: (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DCR

David Reese
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/Victor Batson/
Supervisory Patent Examiner, Art Unit 3677